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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/567,684

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Akira Takayasu

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SUITE 800

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EXAMINER

PHILLIPS, FORREST M

ART UNIT

PAPER NUMBER

2837

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DELIVERY MODE

10/12/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/567,684	Applicant(s) TAKAYASU ET AL.	
	Examiner Forrest M. Phillips	Art Unit 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/9/06</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 17-19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claimed limitations of the nonwoven fabric is in a three dimensional shape is not understood without drawings demonstrating the configuration. The claims have been treated as best understood by the examiner with regard to the three dimensional nature.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 16 and 20-23 rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (US5766745) in view of Haines et al. (US5459291).

With respect to claim 1 Smith discloses a sound absorbing material comprising a nonwoven fabric (see figure 2, abstract, Column 1 lines 35-65, Column 3 lines 5-26, Column 4 lines 22-35 and 55-60, Column 5 line 15-25, and Column 6 lines 30-50).

Smith does not disclose wherein the nonwoven material includes a surface material with an air permeability of not more than 50 cc/cm²/second and the nonwoven and the surface material are layered.

Haines discloses a nonwoven material (12 in figure 1) with a surface material (16 in figure 1) described as high in airflow resistance (see abstract, Column 1 lines 10-15, 20-25, and Column 2 line 65- Column 3 line 14) layered

At the time of the invention it would have been obvious to one of ordinary skill in the art to Haines to have an airflow resistance material layered with a nonwoven material in order to increase the airflow resistance and thus the sound attenuating properties.

While Smith as modified does not disclose the specific density and air permeability claimed, it would have been obvious to one of ordinary skill in the art to select such parameters since it has been held that discovering an optimum value of a

result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

With respect to claim 2 Smith further discloses wherein the nonwoven fabric is a fabric in which thermoplastic staple fiber and a heat resistant staple fiber with an LOI value of not less than 25 are intertwined (See Column 5 lines 15-25), the materials described can be selected to have such an LOI value.

With respect to claim 3 Smith discloses wherein the weight ratio of the thermoplastic fiber and the heat resistant staple fiber is in a range of 95:5 to 55:45 (abstract, described as 90:10).

With respect to claim 4 Smith further discloses wherein the ratio is in a range of 85:15 to 55:45 (Column 5 lines 25 to 40).

With respect to claim 5 Smith further discloses wherein the thermoplastic staple fiber is at least one kind of staple fiber selected from the group consisting of polyester, polypropylene and nylon (Column 5 lines 15-25).

With respect to claim 6 Smith further discloses wherein the heat resistant staple fiber is at least one kind of staple fiber selected from the claimed group (Column 5 lines 15-25).

With respect to claim 7 Smith further discloses wherein the thermoplastic staple fiber is polyester, and the heat resistant staple fiber is an aramid staple fiber (Column 5 lines 15-25).

With respect to claim 8 Smith further discloses wherein the nonwoven fabric is produced by needle punch method or water jet method (Column 5 lines 25-40 needle punching is described).

With respect to claim 16 Smith as modified discloses the invention as claimed except wherein the number of bonding points of the nonwoven fabric and the surface material is not more than 30 points/ square cm and the ratio of the total surface area of the bonding points of the non bonding points is not more than 30%.

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to select such boning parameters, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

With respect to claim 20 Smith discloses a multilayered nonwoven, it would have been obvious to one of ordinary skill in the art to apply this teaching to have a multiple layers with the nonwoven with a surface material as taught by Haines, to form a multilayered absorber with a multiple surface materials as well.

Further it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.

With respect to claims 21-23 it would have been obvious to one of ordinary skill in the art to so utilize the sound absorbing material as it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed

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does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex Parte Masham, 2 USPQ F.2d 1647 (1987).

Claim 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Haines as applied to claim 1 above, and further in view of Bair (US4957794).

With respect to claims 9-10 and 13 Smith as modified discloses the invention as claimed except wherein the surface material is a spun bonded non-woven fabric or a wet laid nonwoven staple fabric, the nonwoven fabric being comprised of a heat resistant staple fiber, the heat resistant fiber being an aramid staple fiber. The surface layer of Smith as modified is stated by Haines as being a fabric (Column 1 lines 64-65), and Smith teaches the use of Aramid fibers.

It is known from Bair (Column 4 lines 37-63) that aramid fibers can be mixed with other fibers and wet laid.

With respect to claim 11 Smith as modified further discloses the use of a silicate material in the construction of a nonwoven material (Column 6 lines 45-48).

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of Smith to include a silicate material in the nonwoven to further enhance the flame resistance.

With respect to claim 12 Smith as modified discloses the invention as claimed except wherein the silicate is mica.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to select mica as the silicate, since it has been held to be within the

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general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

With respect to claim 14 Smith as modified discloses the invention as claimed except wherein the surface material has a dust generation number of not more than 500 particles/0.1 cubic feet of particles with a diameter of not less than 0.3 microns measured by the tubling method according to JIS b-9923 6.2(1.2).

Smith is concerned with the important factor of dust as discloses in Column 1 lines 60-63 and as such, one of ordinary skill in the art would have found it obvious to select such a working range of dust production as it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Haines as applied to claim 1 above, and further in view of Japanese patent publication 2002182655 (hereinafter the Japanese patent).

With respect to claim 15 Smith as modified discloses the invention as claimed except wherein the nonwoven fabric and the surface material are comprised of the same kind of synthetic fiber.

The Japanese patent discloses (abstract) an acoustic absorber having a surface material and a base material are the same kind of polymeric fiber.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of the Japanese patent to have the surface material

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and the base material be the same kind of fiber with the absorber of Smith as modified to allow for ease of bonding between the two layers.

Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Haines as applied to claim 1 above, and further in view of Noxon (US5035298).

Smith in view of Haines discloses the invention as claimed except for the nonwoven fabricated into a three dimensional shape.

Noxon discloses (abstract) the use of three dimensional shapes in sound absorbing panels, including cylinders.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of Noxon to use three dimensional sound absorbers with the sound absorbent material of Smith as modified to provide greater efficiency of sound absorption in a three dimensional space (Column 2 lines 15-20).

While the three dimension shape shown is that of a column or cylinder it would have been obvious to one of ordinary skill in the art to select any three dimensional shape.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to form 892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Forrest M. Phillips whose telephone number is

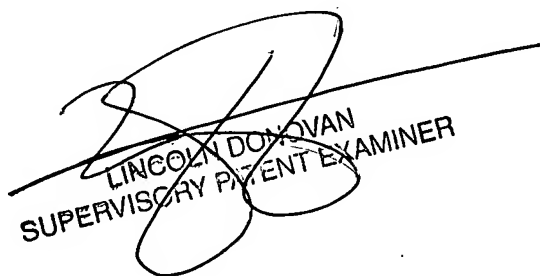
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5712729020. The examiner can normally be reached on Monday through Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on 5712721988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FP


LINCOLN DONOVAN
SUPERVISORY PATENT EXAMINER